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ABSTRACT

Part of a continuing study of cross-gender identified (gender-referred) children is described. The entire study compares gender-referred children (14 boys and 4 girls) with their pre-adolescent siblings and with other children displaying a variety of psychiatric problems. The first phase of the study involves retesting the gender-referred children and their siblings on a yearly basis for two years. The one-year follow-up of about half of the total sample provides the data for this presentation. Four measures assessing sex-typed play and behavior were used in the study. Two of the measures were parent questionnaires employed with the boys' parents and two were behavioral tests used with all the children. Except for one subtest, all of the measures differentiated the gender-referred children from their siblings and the psychiatric controls at the time of the initial assessment. Results of the follow-up comparison of the gender-referred children and their siblings indicate that on some measures gender-referred boys were significantly less feminine but on other measures there was no significant change in their masculine behavior. Male siblings of the gender-referred boys basically maintained their initial patterns at the one-year follow-up. Findings are briefly discussed in terms of the efficacy of therapeutic intervention and the likelihood of altering a child's gender identity. (Author/RH)

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Sex-Typed Play and Behavior in Cross-Gender Identified Children: A One-Year Follow-Up

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The study I am going to describe this morning is part of a prospective investigation of cross-gender identified children. When these children are first seen by our clinic team, their parents describe them as having engaged in a variety of cross-gender behaviors for a considerable length of time, often beginning in the second or third year of life. These behaviors include verbal statements about wanting to be the opposite sex, cross-dressing, cross-sex role play, and cross-sex toy preferences. Taken as a whole, these behavior patterns point to a strong sense of identification with the opposite sex (see Green, 1974).

These children raise a number of challenging and interesting questions about the nature of psychosexual development. The behavior patterns of cross-gender identified children are consistent, for example, with the childhood histories retrospectively described by adult transsexuals and a not insignificant proportion of adult homosexuals (see Zucker, Bradley, Corter, Doering, & Finegan, 1980 for a summary of these studies). Three prospective studies of cross-gender identified boys have now reached a point where it is possible to assess adolescent or adult psychosexual behavior: the majority are reported to be homosexual and only a small minority are reported to be heterosexual (Green, 1979; Money & Russo, 1979; Zuger, 1978). Interestingly enough, only a few are reported to have developed a transsexual orientation.

Surprisingly, there has been little systematic research on the stability of cross-gender behavior within childhood itself. A number of investigators have reported on an impressionistic basis that the extreme cross-gender behavior patterns present in early childhood lessen as the child grows older (e.g., Green, 1975; Zuger, 1978). The only systematic data available to date come from a series of case reports published by Rekers (see Rekers, 1977 for a summary). Using a variety of behavior modification techniques, Rekers has

provided evidence for the virtual reversal of a number of extreme cross-gender behaviors, including exclusive cross-sex toy preference and sex-typed mannerisms. He has also claimed that these changes appear to generalize to a number of other sex-typed characteristics these children display, including the verbal wish to be the opposite sex. At follow-up assessments, these changes in behavior apparently hold up. Thus, Rekers' work provides an approximate baseline for the descriptive data which I will be describing to you this morning.

When first evaluated in our clinic, the gender-referred children (as we prefer to call them) are given a variety of tests, including some which we felt would reliably assess their gender-role behavior. Two main comparison groups are also studied. One group consists of the pre-adolescent siblings of the gender-referred children; the second group consists of children with a variety of psychiatric problems. The psychiatric controls are matched on an individual basis with the gender-referred children for sex, age, full-scale IQ, social class, and the presence of mother or both parents in the home. The first phase of our prospective study involves retesting the gender-referred children and their siblings on a yearly basis for two years. The one-year follow-up of about half of our total sample to date will constitute the primary data base for this presentation.

The gender-referred group consists of 14 boys and 4 girls. At the time of the initial testing, the majority met the formal criteria for the diagnosis of Gender Identity Disorder of Childhood as defined in the third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III) of the American Psychiatric Association (1980). All but two were retested at follow-up one year later on at least some of the measures. The sibling group consists of 10 boys and 7 girls, 13 of whom were available for follow-up testing. The psychiatric control group, which was not tested at follow-up currently consists of 12 boys and 3 girls. Table 1 presents the demographic characteristics of

the three groups at the time of the initial assessment.

Four measures assessing sex-typed play and behavior were used in the present study. Two are parent questionnaires which have been employed only for the boys in the study; the other two are behavioral tests carried out on all the children. The first parent questionnaire is a revised version of the Gender Behavior Inventory (Bates, Bentler, & Thompson, 1973), a factor-analytically derived instrument. The revised version (Zucker, et al., 1980) consists of a masculine behavior factor, two feminine behavior factors, and a fourth factor which evaluates orientation to mother and a concern for neatness. Examples of items from these factors are available in Appendix A. A summary score is derived for each factor. The second parent questionnaire, developed by Bates & Bentler (1973), consists of three scales which evaluate the child's involvement in a variety of games and activities. Scale 1 includes feminine and preschool games; scale 2 includes masculine, non-athletic games; and scale 3 includes masculine, athletic games. The total number of games played per scale is derived. Examples of the games comprising each scale are also given in Appendix A.

The first measure administered to the child is the Draw-a-Person (DAP) test. The child is simply asked to draw a person and to identify its sex. The second measure is a 3-trial free-play task which assesses the child's preference for culturally stereotypic masculine and feminine toys and dress-up apparel. The child is observed playing alone in a room and duration of contact with the masculine and feminine stimuli is recorded. The toys are available on trial one; the dress-up apparel are available on trial two; and both sets are available on trial three. The trials are 5, 5, and 10 minutes

in length, respectively (see Rekers & Yates, 1976 and Zucker, Doering, Bradley, & Finegan, in press, for further details). Aside from our sibling and psychiatric comparison groups, data on normal children are also available for all four of the meaures employed in the study.

With the exception of scale 2 of the Play and Games questionnaire, all of these measures differentiated the gender-referred children from their siblings and the psychiatric controls at the time of the initial assessment. These data are available for inspection in Table 4, Figure 1, and Appendix A. For now, however, I would like to focus on the follow-up data for the gender-referred children and their siblings.

Table 2 and 3 present the follow-up data for the two parent questionnaires. Relative to the initial assessment, the gender-referred boys were described by their mothers at follow-up as significantly less feminine in their behavior and game play on factors 2, 3 and 4 of the Gender Behavior Inventory and on Scale 1 of the Play and Games questionnaire. However, the gender-referred boys did not show significant changes in their masculine behavior and game play as judged by factor 1 of the Gender Behavior Inventory and scales 2 and 3 of the Play and Games questionnaire. The male siblings of the gender-referred boys basically maintained their initial patterns at the one-year follow-up.

Despite their general decline in feminine behavior, the gender-referred boys were still reported to be significantly more feminine on factors 2 and 4 of the Gender Behavior Inventory when compared to their brothers. None of the other comparisons on these two questionnaires differentiated the two groups at the one-year follow-up.

The extent to which the behavior of individual children in the two groups showed evidence of stability on the two questionnaires was evaluated by correlational analyses. Across the two groups, 8 of 14 correlations were statistically significant, indicating some degree of individual stability over

the one-year time period.

Table 4 presents the follow-up data for the DAP test. As may be seen, the percentage of gender-referred children who drew an opposite-sex person first at follow-up declined by 40% relative to initial test performance, a significant change according to a McNemar's test. At follow-up, the siblings maintained their initial test pattern of generally drawing a same-sex person first. At the follow-up, the DAP patterns did not differentiate the gender-referred children from their siblings.

Figure 1 presents the follow-up data for the free-play task. Pictured is the mean percentage of cross-sex play collapsed across the task's three trials. As may be seen, the gender-referred children maintained their initial test play patterns, as did the siblings. At follow-up the gender-referred children continued to engage in a significantly greater percentage of cross-sex play than their siblings. Correlational analyses indicated reasonable stability in the play patterns of the individual children over the one-year time frame. The gender-referred children's correlation for cross-sex play was .72; for the siblings, the correlation was .65.

The results of this one-year follow-up study provide evidence for both change and stability in the gender-role behavior of cross-gender identified children. Let me now offer some speculation about what these findings might mean. The parent report data showed a decrease in the feminine behavior of the gender-referred boys but no evidence for an increase in masculine behavior. Because these parents sought professional consultation, it is reasonable to assume that they were at least somewhat concerned about their son's feminine interests. Over the intervening one-year period, therefore, it is probably the case that these parents attempted to suppress this behavior--to the extent that their reports are accurate, it appears that they met with some success. Inhibiting undesirable behavior, however, may be easier to accomplish than

teaching new, alternative behaviors and it is possible that the finding of no change in the boys' scores on the masculine scales reflects this idea.

There are both clinical and experimental data which indicate that cross-gender identified children can suppress cross-gender behavior under certain stimulus conditions, such as the physical presence of a parent (e.g., Rekers, 1975). This observation may account, in part, for the discrepancy between the parent report data and the absence of change in cross-sex play on the free-play task. When alone, these children still prefer to engage in greater amounts of cross-gender behavior than when under the watchful eye of their parents. To the extent that the dominant mode of play when alone says something about the internalization of at least some aspects of gender role and identity, it would appear that a strong same-sex preference has not yet been achieved by these children.

Compared to Rekers' case reports, there was considerably less change in the behavior of the gender-referred children in our study. During the one-year time period between initial testing and follow-up, almost all of the children and their families were in some kind of therapy. Decisions regarding treatment were based on a variety of considerations and the amount, quality, and type of therapy received were quite variable. Although our therapy data have not yet been systematically analyzed in relation to the follow-up measures, it is our strong impression that there will be no evidence of either positive or negative therapeutic effects on our quantitative data. Given the variability in the children's behavior at the initial assessment and in their therapeutic experiences, this finding is not terribly surprising. What is clear, however, is that we did not find the same degree of change which Rekers claims to have found through the use of specific behavior modification techniques.

In closing, let me offer a more clinically oriented thought on the nature of childhood cross-gender identification. During the preschool years--a period in life where many theoreticians believe the most significant developments in

gender identity occur--these children appear to be absorbed in cross-gender ideation, fantasy, and behavior. Attempts to alter a child's gender identity after this period have been considered by some to be impossible, though there is certainly some data which now question this idea. In any case, it is my feeling that the process of change in these children is clearly slow and complex. My own experiences with these children and their families have taught me a great deal about the significance this early period in development has had on these children's internalized sense of self as boys or girls. And it is certainly the case that the extent to which these early patterns of behaviour can be altered will eventually tell us a great deal about the validity of that long-cherished assumption of continuity in psychosexual development.

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Table 1: Demographic Characteristics at the Initial Assessment

Group	Age (yrs)		IQ		Social Class*		Family Status	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	Both Parents	Mother only
Gender-referred (n=18)	7.9	2.8	104.8	19.2	39.0	16.1	13	5
Siblings (n=17)	7.3	2.9	99.3	17.9	36.1	16.4	13	4
Psychiatric controls (n=15)	7.6	2.1	113.4	13.5	41.2	18.1	10	5

* Hollingshead's four-factor index of social status (absolute range, 8-66).

Table 2: One-Year Follow-up on the Gender Behavior Inventory (Mother's data)

	Gender-referred (n=12)				Siblings (n=7)			
	Assessment		Follow-up		Assessment		Follow-up	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
Factor 1: Masculinity	2.68	.53	2.89	.49	2.93	.41	2.99	.85
Factor 2: Femininity I	2.92[a]	.67	2.24[a,e]	.73	1.29	.32	1.22[e]	.14
Factor 3: Femininity II	3.29[b]	1.36	2.21[b]	.86	1.74	.36	1.73	.37
Factor 4: Orientation to mother/neatness	4.56[c]	.66	3.81[c,f]	.88	3.00[d]	.77	2.46[d,f]	1.11

[a] $t(11)=4.14$, $p < .01$

[b] $t(11)=3.89$, $p < .01$

[c] $t(11)=2.38$, $p < .05$

[d] $t(6)=2.58$, $p < .05$

[e] $t(17)=3.59$, $p < .01$

[f] $t(17)=2.91$, $p < .01$

Table 3: One-Year Follow-up on the Play and Games Questionnaire (Mother's data)

	Gender-referred (n=12)				Siblings (n=6)			
	Assessment		Follow-up		Assessment		Follow-up	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
Scale 1: Feminine/pre-school (n=30 items)	20.33[a]	6.03	15.41[a]	6.68	15.16	6.79	11.66	5.57
Scale 2: Masculine, non-athletic (n=22items)	11.16	4.40	12.16	5.49	11.00	3.22	11.66	1.75
Scale 3: Masculine, athletic (n=14 items)	4.50	3.26	5.66	4.18	7.16	3.31	6.83	3.92

[a] $t(11)=3.59$, $p < .01$

Table 4: One-Year Follow-up on the Draw-a-Person test

Group	Assessment		Follow-up	
	Sex of First Person Drawn			
	Same	Opposite	Same	Opposite
Gender-referred	5	13 (72.2%)	11	5 (31.2%)
Siblings	13	4 (23.5%)	11	1 (08.3%)
Psychiatric controls	11	4 (26.6%)	--	-

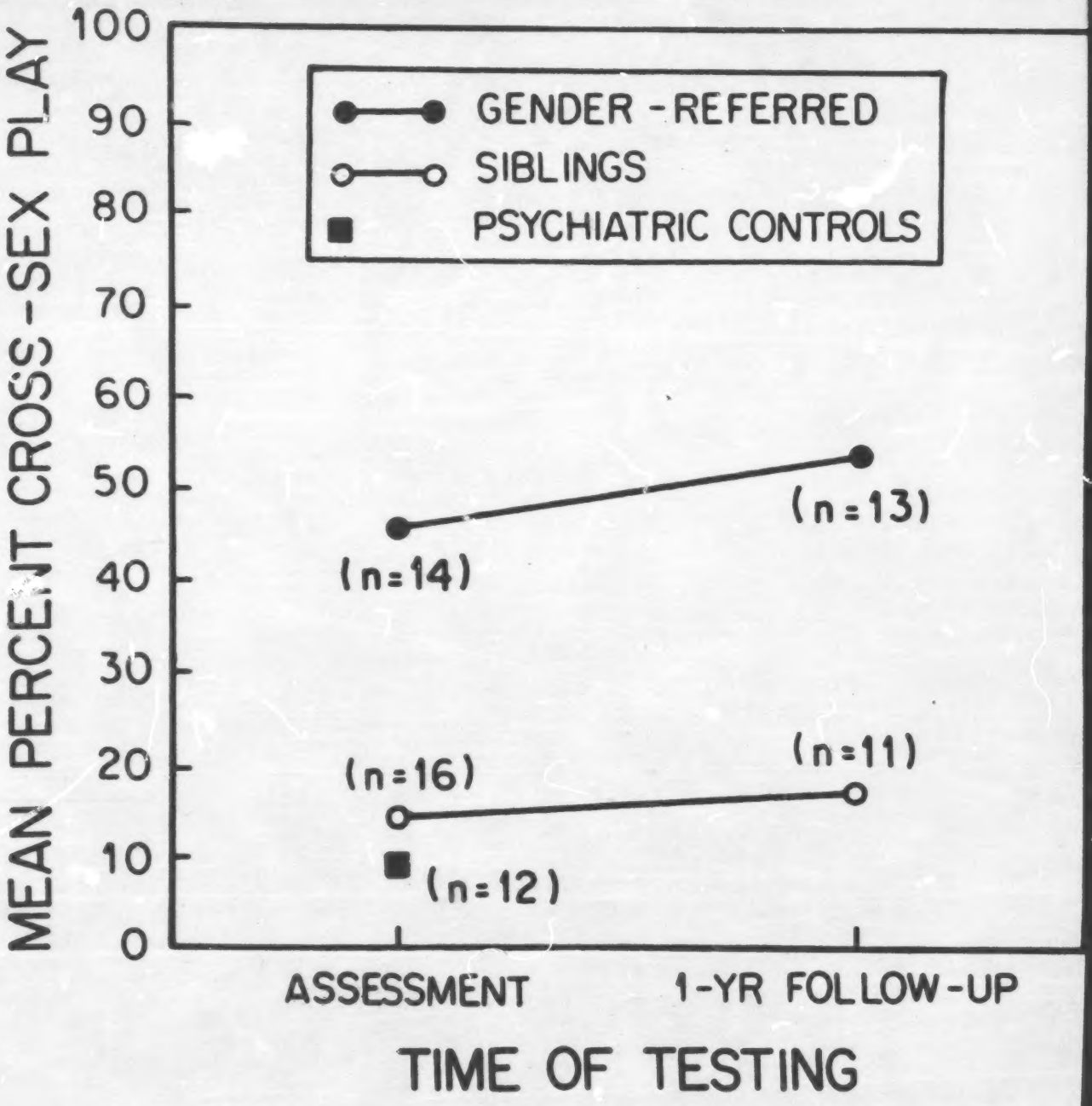
MEAN PERCENT CROSS-SEX PLAY
100
90
80
70
60
50
40
30
20
10
0
GENDER-REFERRED
SIBLINGS
PSYCHIATRIC CONTROLS
(n=14)
(n=13)
(n=16)
(n=11)
(n=12)
ASSESSMENT
1-YR FOLLOW-UP
TIME OF TESTING

Figure 1.

Appendix A: Full-Sample Comparison on the Gender Behavior Inventory and Play and Games Questionnaire at the Initial Assessment (Mother's data)

Measures	Groups					
	Gender-referred (n=13)		Siblings (n=10)		Psychiatric control (n=11)	
Gender Behavior Inventory	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
Factor 1	2.69[a]	.61	3.10[a]	.45	2.90[a]	.82
Factor 2	2.87[b]	.67	1.34[b]	.34	1.25[b]	.17
Factor 3	3.14[c]	1.41	1.82[c]	.45	1.75[c]	.39
Factor 4	4.61[d]	.66	3.12[d]	.94	3.45[d]	.84
Play & Games Questionnaire	(n=13)		(n=10)		(n=12)	
Scale 1	19.00[e]	7.51	13.60[e]	6.85	12.58[e]	6.14
Scale 2	10.69[f]	4.55	11.90[f]	3.38	12.58[f]	4.16
Scale 3	4.53[g]	3.12	7.20[g]	3.12	7.25[g]	2.92

Note. Comparisons are between the gender-referred children and the siblings and psychiatric controls combined.

[a] $t(32)=1.71$, $p < .10$

[b] $t(32)=9.62$, $p < .01$

[c] $t(32)=4.16$, $p < .01$

[d] $t(32)=4.60$, $p < .01$

[e] $t(33)=2.50$, $p < .02$

[f] $t(33)=1.11$, n.s.

[g] $t(33)=2.47$, $p < .02$

The following are sample statements from the Gender Behavior Inventory. A complete report of the standardization study is available upon request.

Factor 1: (1) In fantasy games, he likes to play the role of father.
(2) He imitates males.
Factor 2: (1) He talks with the inflection of a girl.
(2) He uses feminine gestures with his hands when talking.
Factor 3: (1) He likes to wear his mother's shoes.
(2) He likes to wear make-up.
Factor 4: (1) He shows an interest in clothing.
(2) He likes to keep his hair neat and clean.

Appendix A (cont.)

The following are sample games from the Play and Games Questionnaire:

Scale 1: ballet, jump-rope, play in sand-box

Scale 2: card games, marbles, play with toy vehicles

Scale 3: basketball, volleyball, wrestling